



THE UNIVERSITY OF KANSAS SPACE TECHNOLOGY LABORATORIES

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CR-137379

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March 7, 1974

Mr. Timothy T. White, Code TD4
National Aeronautics and Space Administration
Lyndon B. Johnson Space Center
Houston, Texas 77058

RE: Monthly Progress Report for December 1973,
Contract NAS9-13331.

Dear Mr. White:

The University of Kansas Center for Research, Inc. reports the following
work performed during the period 1 December 1973 to 31 December 1973.

1.0 CONTINUING STUDIES

1.1 (Task 2.1.1.2, 2.1.3.1, 2.1.3.2) Development of Catalogue for Backscatter Measurements Performed to Date.

This report is complete and a copy is attached. We feel that this report
should receive wide circulation as a NASA Contractor's Report. It provides in
one comprehensive volume significant results from measurement programs initiated
to date. It provides a comparison of the backscatter measured for various terrain
and man-made targets by various investigators.

1.2 (Task 2.1.1.2, 2.1.3.1, 2.1.3.2) Development of Catalogue for Radiometer Temperature Measurements Performed to Date.

An assessment of the priorities of the contract necessitated a shift in
manpower to obtain processed S193 data for analysis since none was received on
tapes from NASA. Unfortunately, this study was postponed for this month. It
will resume next month.

1.3 (Task 2.1.3.3) Study of Effects of Atmosphere Upon S193 Rad/Scat Measurements. Same as 1.2 (above).

1.4 (Task 2.1.1.5) Ground Truth Collection.

Footprints for S193 Rad/Scat data generated by the simulation program are
being plotted on 1:250,000 U.S. Maps. When these have been plotted, the corres-
ponding points on S190 photographs will be examined. Also, when a tabulation
of the latitudes, longitudes of the centers of field of view are completed, the
meteorology file will be accessed to extract weather statistics.

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(E74-10432) [MICROWAVE

RADIOMETER-SCATTEROMETER MEASUREMENTS]
Monthly Progress Report, 1-31 Dec. 1973
(Kansas Univ. Center for Research, Inc.)
2 p HC \$4.00

1.5 (Task 2.1.1.4) Data Decommulation and Analysis.

Programs to decommutate data from computer-compatible magnetic tapes to be received from NASA are being written and debugged.

Programs have been generated at The University of Kansas to process radiometer and scatterometer data. These programs use the voltage recordings printed in the tabulations (received from Kennedy Space Center on another project) to compute σ^0 and T_B .

2.0 REPORTS COMPLETED

One report was completed this month, C. King and R. K. Moore, "A Survey of Terrain Radar Backscatter Coefficient Measurement Programs," CRES Technical Report 243-2. A copy is attached.

3.0 SPECIAL ANALYSES

The University of Kansas was apprised of the problem of a possible continuous drift in the attitude of SKYLAB due to the failure of one of the Control Moment Gyros. The implications of such a problem upon data for this project were studied.

4.0 DATA RECEIVED

We are still awaiting a formal listing of data to be received on this project. Upon receipt of such a listing, an inventory of all data received will allow us to respond on how much data has been received on this project.

Sincerely,



Arun Sobti
Project Engineer
Remote Sensing Laboratory

AS/rmm